# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/742,039 | 12/19/2000 | Anthony Mauro | 990502 | 9961 |

| 23696     7590     01/12/2006 | EXAMINER |
|---|---|
| QUALCOMM, INC | ABRISHAMKAR, KAVEH |
| 5775 MOREHOUSE DR. | |

| | ART UNIT | PAPER NUMBER |
|---|---|---|
| QUALCOMM, INC 5775 MOREHOUSE DR. SAN DIEGO, CA 92121 | 2131 | |

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 09/742,039 | MAURO, ANTHONY |
| | Examiner | Art Unit |
| | Kaveh Abrishamkar | 2131 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on _17 August 2005_.

2a) ☒ This action is **FINAL.**     2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) _1,4-9,14-17 and 22-25_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1,4-9,14-17 and 22-25_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

## DETAILED ACTION

### *Response to Amendment*

1.     This action is in response to the amendment received on August 17, 2005. Per a telephone conversation with Mr. Katbab prior to the previous non-final rejection issued, claims 1,4-9,14-17, and 22-25 were elected. However, the received amendment does not withdraw the non-elected claims. Appropriate correction is needed.

### *Response to Arguments*

2.     Applicant's arguments filed August 17, 2005 have been fully considered but they are not persuasive for the following reasons:

Regarding newly amended claim 1, the applicant argues that the CPA, Gersho et al. (U.S. Patent No. 6,233,55) in view of Udaya Bhaskar et al. (U.S. Patent 6,691,092) does not teach "generating a state vector corresponding to the vocoder frames, wherein the state vector is incremented only for a generated active or transition frame." This argument is not found persuasive. Udaya Bhaskar discloses state vectors representing both transient and steady state vectors, but does not provide a state vector frame for an inactive vocoder frame (column 11 line 66 – column 12 line 13). The applicant argues that the state vectors in the CPA track abrupt variations in speech levels which is different from detecting active or inactive frames. However, this is not present in the claim language as the claim limitations states the state vector is maintained for active or

transition frames, and does not mention detecting active or inactive frames.  It is

respectfully asserted that the CPA (Udaya Bhaskar) does teach a state vector which

keeps track of speech levels.  Therefore, the rejection is maintained and applied to the

amended claims as given below.

## *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.      Claims 1,4,6-7,14-15,22-23, 5,8,16, and 24 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Gersho et al. (U.S. Patent No. 6,233,550) in view of Udaya

Bhaskar et al. (U.S. Patent No. 6,691,092).

Regarding claim 1, Gersho discloses:

A method of controlling discontinuous transmissions, comprising the steps of:

determining a voice activity level in a digitized audio signal (Figure 4A item 18,

column 10 lines 38 – 41, column 13 lines 17 – 53);

generating a control signal based on the level of voice activity detected (column

10 lines 38 – 41, column 13 lines 17 – 53);

generating active vocoder frames at a predetermined rate in a transmitter if said control signal indicates a first level of speech activity (Figure 4A item 52, column 10 lines 42 – 53, column 13 lines 17 – 53);

generating inactive vocoder frames if said control signal indicates a second level of speech activity (Figure 4A item 50, column 10 lines 42 – 53, column 13 lines 17 – 53); and

generating transition frames if said control signal indicates a transition from said first level to said second level, said transition frames comprising background noise information (Figure 4A item 54, column 10 lines 42 – 53 , column 13 lines 17 – 53).

Gersho does not explicitly disclose a state vector which is incremented when at least one active or transition frame is generated. Udaya Bhaskar disclose state vectors representing both transient and steady state vectors (column 11 line 66 – column 12 line 13). The transient vectors represent the changes in the speech levels and other non-stationary events. The use of state vectors allows the tracking of abrupt variations in speech levels, and maintains the accuracy of the speech level. Gersho and Udaya Bhaskar are analogous arts in that both receive an speech/voice input and both pertain to voice activity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the state vectors to track the different types of speech in order to "to track the abrupt variations in speech levels during onsets and other non-stationary events, while maintaining the accuracy of the speech level during stationary conditions."

Regarding claim 4, Gersho discloses:

A discontinuous transmission controller, comprising:

a vocoder for generating active vocoder frames from a digitized audio signal at a

predetermined output rate if speech is present, for generating inactive vocoder frames

during periods of speech inactivity, and for generating transition frames during

transitions from speech activity to speech inactivity, said transition frames comprising

background noise information (Figure 4A items 50, 52, 54, column 10 lines 38 – 53,

column 13 lines 17 – 53).

Gersho does not explicitly disclose a state vector which is incremented when at

least one active or transition frame is generated.  Udaya Bhaskar disclose state vectors

representing both transient and steady state vectors  (column 11 line 66 – column 12

line 13).  The transient vectors represent the changes in the speech levels and other

non-stationary events.  The use of state vectors allows the tracking of abrupt variations

in speech levels, and maintains the accuracy of the speech level.  Gersho and Udaya

Bhaskar are analogous arts in that both receive an speech/voice input and both pertain

to voice activity.  It would have been obvious to one of ordinary skill in the art at the time

the invention was made to use the state vectors to track the different types of speech in

order to "to track the abrupt variations in speech levels during onsets and other non-

stationary events, while maintaining the accuracy of the speech level during stationary

conditions."

Claim 5 is rejected as applied above in rejecting claim 4. Gersho does not explicitly

disclose a state vector which is incremented when at least one active or transition frame

is generated. Udaya Bhaskar disclose state vectors representing both transient and

steady state vectors (column 11 line 66 – column 12 line 13). The transient vectors

represent the changes in the speech levels and other non-stationary events. The use of

state vectors allows the tracking of abrupt variations in speech levels, and maintains the

accuracy of the speech level. Gersho and Udaya Bhaskar are analogous arts in that

both receive an speech/voice input and both pertain to voice activity. It would have

been obvious to one of ordinary skill in the art at the time the invention was made to use

the state vectors to track the different types of speech in order to "to track the abrupt

variations in speech levels during onsets and other non-stationary events, while

maintaining the accuracy of the speech level during stationary conditions."


Regarding claim 8, Gersho discloses:

A method for controlling discontinuous transmissions, comprising:

receiving digitized audio signal (Figure 4A item 18, column 10 lines 38 – 41,

column 13 lines 17 – 53);

determining a speech activity level in the received digitized audio signal (Figure

4A item 18, column 10 lines 38 – 41, column 13 lines 17 – 53);

generating a control signal based on the determined speech activity level

(column 10 lines 38 – 41, column 13 lines 17 – 53);

generating active vocoder frames in a transmitter if said control signal indicates a

transition between said active speech activity and inactive speech activity (Figure 4A

item 52, column 10 lines 42 – 53, column 13 lines 17 – 53);

generating transition frames in the transmitter if said control signal indicates a

transition between said active speech activity and inactive speech activity (Figure 4A

item 54, column 10 lines 42 – 53 , column 13 lines 17 – 53); and

generating no vocoder frame in the transmitter if said control signal indicates

inactive speech activity (Figure 4A item 50, column 10 lines 42 – 53, column 13 lines 17

– 53).

Gersho does not explicitly disclose a state vector which is incremented when at least

one active or transition frame is generated.  Udaya Bhaskar disclose state vectors

representing both transient and steady state vectors, but does not provide a state vector

for an inactive vocoder frame (column 11 line 66 – column 12 line 13).  The transient

vectors represent the changes in the speech levels and other non-stationary events.

The use of state vectors allows the tracking of abrupt variations in speech levels, and

maintains the accuracy of the speech level.  Gersho and Udaya Bhaskar are analogous

arts in that both receive an speech/voice input and both pertain to voice activity.  It

would have been obvious to one of ordinary skill in the art at the time the invention was

made to use the state vectors to track the different types of speech in order to "to track

the abrupt variations in speech levels during onsets and other non-stationary events,

while maintaining the accuracy of the speech level during stationary conditions."

4.      Claims 6-7 are analogous to claim 1 in subject matter and limitations and
therefore, are rejected following the same reasoning.

5.      Claim 16 is an apparatus claim analogous to the method claim of claim 8, and
therefore, is rejected following the same reasoning.

6.      Claim 17 is an apparatus claim analogous to the method claim of claim 9, and
therefore, is rejected following the same reasoning.

7.      Claims 22-23 are computer-readable medium claims analogous to the method
claim presented by claim 1, and therefore, are rejected following the same reasoning.

8.      Claim 24 is a computer-readable medium claim analogous to the method claim of
claim 8, and therefore, is rejected following the same reasoning.

9.      Claim 25 is a computer-readable medium claim analogous to the method claim of
claim 9, and therefore, is rejected following the same reasoning.

10.     Claims 9, 17 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Gersho et al. (U.S. Patent No. 6,233,550) in view of Udaya Bhaskar et al. (U.S.

Patent No. 6,691,092), as applied to claims 5,8,16 and 24 above, and further in view of

Duke et al. (U.S. Patent 6,272,633).


Claim 9 is rejected as applied above in rejecting claim 8. The system of Gersho and

Udaya Bhaskar does not explicitly disclose encrypting the generated active and

transition vocoder frames. Duke discloses a system (Figure 2) with an encryption and

decryption module for encrypting and decrypting digitized voice. The voice frames are

placed in a buffer (queue) and are processed in turn by the encryption/decryption

module (column 2 lines 28 – 48). In one embodiment discussed by Duke, the voice

frames are encrypted and later decrypted by codebook algorithms (column 2 lines 28 –

48). The state vector which is provided to the encryption/decryption modules is

disabled when the buffer (queue) is an underflow condition. The disclosures of Gersho,

Udaya Bhaskar and Duke are analogous arts in the respect that all deal with voice

communication over a network. Gersho provides the voice activity detection, frame

generation, while Duke provides the encryption/decryption functions. Duke states,

"many users have begun to utilize digital networks for voice communications" and that

"confidentiality is a primary concern" (column 1 lines 25 – 31). It would have been

obvious to one of ordinary skill in the art to use the encryption/decryption modules that

Duke uses to secure voice communications in conjunction with the system of Gersho to

provide confidentiality and security for the voice communications.

## *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kaveh Abrishamkar whose telephone number is 571-

272-3786. The examiner can normally be reached on Monday thru Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.  Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).


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01/06/2006

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100